

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-14. (Canceled)

15. (Previously presented) A method of forming a protein-polymer conjugate comprising modifying a protein to have functionality suitable for initiation of radical polymerization and reacting the modified protein with a monomer comprising:

modifying the protein by interacting with a bromoisobutyrate-modified ligand initiator, mixing said protein modified by the bromoisobutyrate-modified ligand initiator with a non-interacting bromoisobutyrate-modified solid phase resin and adding to said mixture a suitable reactive monomer under conditions suitable to initiate polymerization of the protein modified by the bromoisobutyrate-modified ligand initiator with the monomer to form the protein-polymer conjugate.

16. (Original) The method of claim 15 wherein the initiator is a bromoisobutyrate-modified biotin initiator.

17. (Original) The method of claim 15 wherein the protein is streptavidin.

18. (Original) The method of claim 15 wherein the monomer is N-isopropylacrylamide.

19. (Original) The method of claim 15 wherein the monomer is (ethylene glycol) methyl ether methacrylate.

20. (Currently amended) A protein-polymer conjugate comprising a single protein with initiator-modified locations thereon, said protein modified to include one or more bromoisobutyrate-modified ligand initiators, one or more polymer chains bound to the protein with each initiator-modified location forming a link between the single protein and a single polymer chain, the protein-polymer conjugate formed by reacting the initiator-modified locations on the protein each with a monomer and polymerizing to form the conjugate.

21-23 (Canceled)

24. (New) The protein-polymer conjugate of claim 20 wherein the initiator is a bromoisobutyrate-modified biotin initiator.

25. (New) The protein-polymer conjugate of claim 20 wherein the protein is streptavidin.

26. (New) The protein-polymer conjugate of claim 20 wherein the monomer is N-isopropylacrylamide.

27. (New) The protein-polymer conjugate of claim 20 wherein the monomer is (ethylene glycol) methyl ether methacrylate.